EXHIBIT C

Windsor Laboratories
894 **Hawthorn** Avenue • Mechanicsburg, **PA** 17055
Phone: (717) 796-0537 • Fax: (717) 796-0537

Microscopic Evaluation of Agricultural Products   Members of the American Oil Chemists Society (AOCS)

July 23, 2014

EXPERT REPORT OF JAMES V. MAKOWSKI

I. EXECUTIVE SUMMARY

This Report summarizes the microscopic analyses I performed on the following pet foods to determine their ingredient content:

- Blue Buffalo Life Protection - Adult Chicken and Brown Rice (Dog)
- Blue Buffalo Freedom - Adult Grain Free Chicken (Dog)
- Blue Buffalo Wilderness - Adult Chicken Recipe (Dog)
- Blue Buffalo Basics - Adult Turkey & Potato (Dog)
- Blue Buffalo Longevity - Longevity for Adult Dogs (Dog)
- Purina Pro Plan SELECT Adult Grain Free Formula (Dog)
- Purina ONE beyOnd White Meat Chicken & Whole Barley Recipe (Dog)
- Blue Buffalo Life Protection - Indoor Health Chicken & Brown Rice Recipe (Cat)
- Blue Buffalo Freedom - Grain Free Chicken for Indoor Cats (Cat)
- Blue Buffalo Wilderness - Adult Chicken Recipe (Cat)
- Blue Buffalo Basics - Adult Turkey & Potato (Cat)
- Blue Buffalo Longevity - Longevity for Adult Cats (Cat)
- Purina ONE beyOnd White Meat Chicken & Whole Oat Meal Recipe (Cat)
- Purina ONE beyOnd Salmon & Whole Brown Rice Recipe (Cat)

Based on the microscopic analyses of these products, I conclude that several of the Blue Buffalo products tested contain measurable amounts of chicken/poultry by-product meal or grains.

II. EXPERIENCE AND QUALIFICATIONS

I, James V. Makowski, am presently employed by Messiah College in Mechanicsburg, Pennsylvania, as Professor of Biology. I teach courses including, among others, undergraduate courses on Cellular and Molecular Biology, Microbiology, and Genetics (all of which include units on microscopic analysis methods and procedures) and conduct corresponding research. I also teach a senior undergraduate course in Bioethics. I earned a Ph.D. in Curriculum & Instruction/Science Education at the University of Delaware, a Master of Arts in Biology at West Chester State University and a Bachelor of Science in Biology at Messiah College. I am the Owner and Microscopist of Windsor Laboratories of Mechanicsburg, Pennsylvania, a position I have held for 28 years. In this capacity, I conduct microscopic analysis for clients in the agricultural industry and related industries, including the pet food industry. Attached to this report as Exhibit 1 is my curriculum vitae stating my qualifications, including a list of all publications authored in the previous 10 years.

I am an author and the lead editor of MICROSCOPIC ANALYSIS OF AGRICULTURAL PRODUCTS (4th ed. 2010), with Neil Vary, Marjorie McCutcheon and Pascal Veys, published by the American Oil Chemists

Society. This book is the leading manual for the microscopic analysis of agricultural products, including animal protein products, in the United States and worldwide. It is used as a primary training resource on the subject of microscopic analysis of agricultural products by the United States Food and Drug Administration (FDA). I speak widely on the use of microscopy for purposes such as the detection of prohibited protein in ruminant feed, including at workshops conducted by the FDA and National Institutes of Health (NIH). I have also taught numerous 3-5 day short courses on using microscopy to identify components in various agricultural products for the Association of American Feed Control Officials and the American Association of Cereal Chemists. I have instructed microscopists for the American Soybean Association, including in Jamaica and Trinidad. I am also the Chairperson of the Training Committee for the Agricultural Microscopy Division of the American Oil Chemists Society.

III. SCOPE OF ENGAGEMENT

I was retained in February 2014 by Nestlé Purina PetCare to conduct microscopic analysis of several dog and cat foods. At the time of my retention, I was asked to analyze and list all ingredients that I was able to identify in the dog and cat foods provided to me. I was not aware of the reason for the requested work until after I completed my analysis. I was not provided with any reasons, hypotheses, expectations, suspicions, or goals associated with my analysis. After completing my independent analysis, I was informed that the purpose of the requested work was to procure an independent and unbiased analysis and determination of whether Blue Buffalo brand dog and cat foods contain any ingredients that Blue Buffalo's marketing materials claim that they do not contain, including chicken and poultry by-product meal and, for some products, grains.

IV. SOURCING OF ANALYZED PRODUCTS

I was provided and received from Purina by personal delivery on February 27, 2014, the following commercially available products: (i) 10 sealed, new, unopened bags of the Blue Buffalo products identified above; and (ii) 4 sealed, new, unopened bags of Purina dog and cat pet foods as identified above from Christopher Purschke at Purina. It is my understanding that these bags were obtained commercially from a PetCo retail store in or near Mechanicsburg. On March 5, 2014, I received by Federal Express an additional 14 unopened bags, duplicates of the original foods, from Mark Rogers at Purina. The purpose of sourcing duplicate products was to obtain samples from different geographic regions and production batches. I transported the bags to the microbiology laboratory at Messiah College, where they were securely stored pending examination. I personally inspected each bag to ensure that they were new, unopened, and in good condition.

The unopened bags were identified and tagged on March 12, 2014. Each commercial product package was randomly and uniquely labeled using a simple numbering method (001-2014, 002-2014, 003-2014, etc.), and matching labels were applied to product sample bags (Ziploc brand freezer bags). An approximately 200-gram sample of pet food was removed and weighed from each identified commercial product package and placed in the corresponding labeled Ziploc bag, which was then sealed. After all of the pet food product packaging was labeled, and the corresponding samples were placed and sealed in the properly identified and labeled Ziploc bags, the commercial product packaging containing the remainder of the pet foods shipped to me was returned to a locked storage room in the Messiah College microbiology laboratory, where it remains as of the date of this report. I transported the Ziploc sample bags to Windsor Laboratories for secure retention and analysis.

V. RESEARCH PROTOCOL (PROCEDURE)

This section provides a detailed description of the procedures I followed in carrying out the microscopic analyses of the product samples identified above. Agricultural microscopy is an established, reliable tool for determining ingredients present in a given product, particularly where the origins of the product and/or its ingredients are unknown. By separating the constituents of a given sample by density and characterizing the particles by shape, color, size, softness/hardness, texture, luster, odor and other histological and morphological features using a microscope, a microscopist can reliably identify and quantify those constituents in the sample by comparing them to known standards. Indeed, as I noted above, this technique is routinely used by the FDA and others in the food industry to identify ingredients in food products. The microscopic analysis methodologies used to obtain the results summarized in this Report are the same as those I have used for the past 28 years when performing similar analyses relating to non-litigation projects.

A. Preparation of the Samples for Analysis

I logged in each sample bag by code number in my lab notebook at Windsor Laboratories, assigning each to an examination board. I prepared and inspected each product sample individually in order to ensure that there was no confusion or mistake regarding the specific samples being tested. When I completed the preparation, analysis, and recording of results for each uniquely identified sample, I returned unused materials to the corresponding uniquely identified sample bag and thoroughly cleaned the area and all tools employed before proceeding to the next sample bag.

In the majority of cases, the samples were comprised of kibble and dark bits. In all such cases, I personally and manually separated the kibble and dark bit components, and then weighed each component using an Ohaus E400 D analytical balance. I then calculated and recorded the percentages of kibble and dark bits in my lab notebook.

After weighing each component (kibble and dark bits), I subdivided them into combined quarters and opposite quarters for sample preparation and analysis. This was done by spreading each sample onto parchment paper, dividing into quadrants (upper left, upper right, lower left and lower right) and then sampling the diagonally opposite quarters. Quartering in this way is an accepted procedure for ensuring a statistically valid sample. See MICROSCOPIC ANALYSIS OF AGRICULTURAL PRODUCTS (2010) at 3. This aliquot was then ground in a grain flour mill to crush the particles without causing any damage to cellular components, and 2 grams of the ground sample were transferred into a Coors porcelain evaporating dish. All equipment was cleaned thoroughly before each use. The remainder of 200-gram samples were bagged, sealed and stored at Windsor Laboratories.

B. Sample Separation by Flotation:

After transferring representative 2-gram samples into clean evaporating dishes, I added 6 ml of a 1:1 carbon tetrachloride:chloroform mixture to the evaporating dish and stirred the sample thoroughly to allow mineral, bone and other heavy components to settle. I transferred the material that floated to the top by pouring the CCL_4:$CHCL_3$, into another evaporating dish. The mineral/bone fraction, typically referred to as the "heavy" fraction, was allowed to evaporate to dryness, which took approximately thirty minutes.

I then added 2 ml of petroleum ether to the CCL_4:$CHCL_3$ mixture containing the floating material. This alters the density of the liquid, which causes a less dense fraction of the sample to float to the surface. The floating material is then poured off onto a drying medium, leaving behind a more dense fraction. I stirred this mixture thoroughly, transferred the floating material to filter medium, and allowed it to dry.

I added additional 2-ml aliquots of $CCHL_3$ until no material floated. This procedure resulted in 3 or 4 density-dependent fractions of ingredients in lighter to heavier order. All fractions were allowed to dry for at least thirty minutes. This is the accepted method of separating material by density for microscopic examination. See MICROSCOPIC ANALYSIS OF AGRICULTURAL PRODUCTS (2010) at 5-7.

I then weighed each fraction on the Ohaus E400 D analytical balance to the nearest 0.01 g, recording the results in my lab notebook. Once a fraction was weighed, it was transferred onto a new, clean, black Masonite examination board produced at Windsor Laboratories, on which the particles were spread to ensure a single layer of material for microscopic analysis.

C. Microscopic Examination of the Product Samples

I microscopically examined each fraction, from heaviest to lightest, using a Nikon Model 76210 stereo microscope on a botanical boom at 10-20X, which is the standard range for analysis of particles of this type. See MICROSCOPIC ANALYSIS OF AGRICULTURAL PRODUCTS (2010) at 2-3. For each fraction, I listed and recorded all identified components in my lab notebook and calculated and recorded the approximate percentage of each component using standard methods. See MICROSCOPIC ANALYSIS OF AGRICULTURAL PRODUCTS (2010) at 5-7. I identified each component by comparing it to a reference library of known ingredients and with my knowledge of particle characteristics based on my extensive experience with examination of similar particles. I estimated the proportion of each component by visually estimating the percentage of each type of particle viewed through the microscope. This was repeated for each fraction and the totals for each component present were calculated.

In instances where I was unable to identify a specific particle when doing this type of analysis with certainty, I transferred the relevant particle to a Nikon Alphaphot YS compound microscope for more detailed examination. These particles were placed on a new, clean microscope slide and a drop of mounting medium added. The mounting medium used is a 1:1:1 (v/w/v) mixture of distilled water, chloral hydrate and glycerol, which helps to displace trapped air and allow some ingredients of finer cellular structure to be more readily observable. See MICROSCOPIC ANALYSIS OF AGRICULTURAL PRODUCTS (2010) at 5. I then observed the particle under the compound microscope (100-400x) to determine cellular structure for identification. Identification of components at this magnification is based on cellular structure rather than on characteristics of larger particles.

The samples from the examination boards were retained for a period of one month but were then discarded because samples undergo an unacceptable degree of decomposition beyond this point.

VI. RESULTS OF THE MICROSCOPIC ANALYSIS

As previously noted, the identities of the 28 samples were blinded during my analysis. Once I completed my analysis and recorded my results in the laboratory notebook, the coded log numbers corresponding to each Ziploc bag sample were matched to the corresponding numbers placed on the commercial product packaging. At that point, I added the commercial names of some of the examined pet foods to the entries in the lab notebook. Up until this time, I was unaware of the purpose of the requested analysis of the samples and of any hypotheses being tested.

I then compared the ingredients identified by my microscopic analysis to the labels of each dog or cat food tested. The results of my testing and analysis reveal that in some instances, the Blue Buffalo products that I tested contained poultry by-product meal, even though the packaging indicated the

contrary. This was especially evident in the two samples of Blue Buffalo Life Protection Indoor Chicken & Brown Rice Formula. In both the original and duplicate samples, I found approximately 22-24% poultry by-product meal present in the kibble. In both instances I found small fragments of egg shell, raw feather and leg scale. Further, in several Blue Buffalo samples, I found quantities of grain present where the corresponding products were labeled as being "grain free." For illustrative purposes, photos of representative poultry by-product and grain particles are attached in Exhibit 2, a Photographic Appendix to this report. The table below summarizes the results for the Blue Buffalo product samples. Discrepancies between the package claim and my results are bolded and highlighted in yellow.

Blue Buffalo Product	Component	% Poultry By-Product Meal (Two Samples)	% Rice and/or Corn (Two Samples)	Package Claim
Wilderness – Adult Chicken Recipe (Dog)	Kibble	0%, 0%	0%, 0%	**No Poultry By-Product Meal/No Grains**
	Dark Bits	**9%, 11%**	**2.2%, 1.5%**	
Wilderness – Adult Chicken Recipe (Cat)	Kibble	0%, 0%	0%, **1%**	**No Poultry By-Product Meal/No Grains**
	Dark Bits	**8%, 5%**	**2.2%, 2.5%**	
Longevity – Adult Dogs	Kibble	0%, 0%	N/A	**No Poultry By-Product Meal**
	Dark Bits	**2%, 1%**	N/A	
Longevity – Adult Cats	Kibble	0%, 0%	N/A	**No Poultry By-Product Meal**
	Dark Bits	**3%**, 0%	N/A	
Life Protection – Indoor Health Chicken & Brown Rice Recipe	Kibble	**22%, 24%**	N/A	**No Poultry By-Product Meal**
	Dark Bits	**2%, 2%**	N/A	
Life Protection – Adult Chicken & Brown Rice (Dog)	Kibble	**22%**, 0%	N/A	**No Poultry By-Product Meal**
	Dark Bits	0%, 0%	N/A	
Freedom – Adult Grain-free Chicken (Dog)	Kibble	0%, 0%	0%, 0%	**No Poultry By-Product Meal/No Grains**
	Dark Bits	**2%, 2%**	**3%, 1%**	
Freedom – Grain-Free Chicken for Indoor Cats	Kibble	0%, 0%	0%, 0%	**No Poultry By-Product Meal/No Grains**
	Dark Bits	**2%, 1%**	**2%, 2%**	
Basics – Adult Turkey & Potato (Cat)	Kibble	0%, 0%	N/A	**No Poultry By-Product Meal**
	Dark Bits	**2%, 2%**	N/A	
Basics – Adult Turkey & Potato (Dog)	Kibble	0%, 0%	N/A	No Poultry By-Product Meal
	Dark Bits	0%, 0%	N/A	

The full results of my analyses of the products are provided on the following pages.

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April 21, 2014

Sample: Blue Buffalo; Wilderness—Adult Chicken Recipe (Dog); 59610 00270 BIUB MAR 03 15 L 1 2 1 09:20

	Estimated Percent:
Kibble	96.0
Dark Bits	4 .0

Sample: 001-2014 (Kibble)	Estimated Percent:
Chicken/Turkey Meal	36
Chicken	26
Total Fat	15
Total Starch	12
Vegetable Pomace	8
Total Chlorides as NaCl	0.5
Dehydrated Alfalfa Meal	0.2
pH = 6.0	

Sample: 001-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	48
Total Fat	16
Starch	8
Poultry By-Product Meal	9
Dehydrated Alfalfa Meal	8
Pea Fiber	4
Rice Hulls	2
Vegetable Pomace	2
Total Chlorides as NaCl	0.6
Ground Yellow Corn	0.2
pH = 5.8	

Sample: Blue Buffalo Wilderness—Adult Chicken Recipe (Cat); 59610 00140 BIUB FEB 04 15 B31 0620

	Estimated Percent:
Kibble	98.2
Dark Bits	1.8

Sample: 002-2014 (Kibble)	Estimated Percent:
Chicken/Turkey Meal	36
Chicken	26
Total Fat	15
Total Starch	12
Vegetable Pomace	8
Total Chlorides as NaCl	0.5
Dehydrated Alfalfa Meal	0.2
pH = 6.0	

Sample: 002-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	50
Total Fat	16
Starch	9
Poultry By-Product Meal	8
Dehydrated Alfalfa Meal	8
Pea Fiber	3
Rice Hulls	2
Vegetable Pomace	2
Total Chlorides as NaCl	0.6
Ground Yellow Corn	0.2
pH = 5.8	

Sample: Blue Buffalo Longevity—Longevity for Adult Dogs; 59610 00802 BIUB JAN 08 15 L131 10:45

	Estimated Percent:
Kibble	92.4
Dark Bits	7.6

Sample: 003-2014 (Kibble)	Estimated Percent:
Fish	28
Fish Meal	18
Ground Rice	16
Ground Barley	15
Total Fat	11
Starch	10
Total Chlorides as NaCl	0.5
pH = 6.0	

Sample: 003-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	62
Total Fat	12
Starch	8
Dehydrated Alfalfa Meal	8
Pea Fiber	5
Poultry By-Product Meal	2
Rice Hulls	1
Vegetable Pomace	0.3
Total Chlorides as NaCl	0.6
Ground Yellow Corn	0.2
Calcium Carbonate	Trace (<0.1%)
pH = 5.8	

4.

Sample: Blue Buffalo Longevity—Longevity for Adult Cats; 59610 00814 BIUB JUN 13 14 L 1 3 2 15:02

	Estimated Percent:
Kibble	93.0
Dark Bits	7.0

Sample: 004-2014 (Kibble)	Estimated Percent:
Fish Meal	32
Fish	19
Total Fat	17
Ground Rice	16
Ground Oats	8
Ground Barley	6
Total Chlorides as NaCl	0.7
pH = 6.0	

Sample: 004-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	50
Total Fat	16
Dehydrated Alfalfa Meal	12
Starch	10
Pea Fiber	4
Poultry By-Product Meal	3
Vegetable Pomace	2
Rice Hulls	1
Total Chlorides as NaCl	0.7
Ground Yellow Corn	0.2
pH = 6.0	

5.

Sample: Life Protection—Indoor Health Chicken & Brown Rice Recipe; 59610 00087 FEB 09 15 J22 0439

	Estimated Percent:
Kibble	91.5
Dark Bits	8.5

Sample: 005-2014 (Kibble)	Estimated Percent:
Chicken	28
Poultry By-Product Meal	22
Total Fat	17
Ground Barley	12
Ground Rice	8
Ground Oats	5
Fish Meal	3
Flax (Linseed)	3
Total Chlorides as NaCl	0.7
Carrot	0.2
pH = 6.0	

Sample: 005-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	54
Total Fat	17
Starch	10
Dehydrated Alfalfa Meal	8
Pea Fiber	5
Poultry By-Product Meal	2
Vegetable Pomace	1
Rice Hulls	1
Total Chlorides as NaCl	0.7
Ground Yellow Corn	0.2
pH = 6.0	

Sample: Blue Buffalo Life Protection—Adult Chicken & Brown Rice (Dog); 59610 00011 BIUB JAN 15 15 T48 1:15

	Estimated Percent:
Kibble	95.5
Dark Bits	4.5

Sample: 006-2014 (Kibble)	Estimated Percent:
Chicken	20
Poultry By-Product Meal	22
Total Fat	15
Ground Rice	15
Ground Barley	10
Total Starch	8
Vegetable Pomace	6
Dehydrated Alfalfa Meal	2
Total Chlorides as NaCl	0.5
Flax	Trace (<0.1%)
pH = 5.5	

Sample: 006-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	58
Total Fat	15
Total Starch	8
Dehydrated Alfalfa Meal	7
Pea Fiber	4
Vegetable Pomace	3
Ground Yellow Corn	2
Rice Hulls	1
Total Chlorides as NaCl	0.6
pH = 5.8	

Sample: Blue Buffalo Freedom—Adult Grain Fee Chicken (Dog); 59610 00680 BIUB MAR 17 15 V S 06:20

	Estimated Percent:
Kibble	93.8
Dark Bits	6.2

Sample: 007-2014 (Kibble)	Estimated Percent:
Chicken Meal	32
Chicken	21
Total Fat	16
Total Starch	10
Peas	8
Vegetable Pomace	7
Dehydrated Alfalfa Meal	2
Flax (Linseed)	2
Total Chlorides as NaCl	0.7
pH = 5.2	

Sample: 007-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	57
Total Fat	16
Total Starch	9
Dehydrated Alfalfa Meal	8
Pea Fiber	5
Poultry By-Product Meal	2
Ground Yellow Corn	2
Rice Hulls	1
Total Chlorides as NaCl	0.6
pH = 5.4	

8.

Sample: Blue Buffalo Freedom—Grain Fee Chicken for Indoor Cats; 59610 00707 BIUB JAN 12 15 P1614 3 3K14

	Estimated Percent:
Kibble	95.7
Dark Bits	4.3

Sample: 008-2014 (Kibble)	Estimated Percent:
Chicken	32
Chicken Meal	28
Total Fat	14
Total Starch	14
Pea Fiber	6
Flax (Linseed)	2
Dehydrated Alfalfa Meal	1
Vegetable Pomace	1
Total Chlorides as NaCl	0.58
pH = 5.7	

Sample: 008-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	53
Total Fat	15
Dehydrated Alfalfa Meal	9
Pea Fiber	8
Total Starch	8
Poultry By-Product Meal	2
Rice Hulls	2
Vegetable Pomace	1
Total Chlorides as NaCl	0.6
pH = 5.7	

9.

Sample: Blue Buffalo Basics – Adult Turkey & Potato (Cat); 59610 00727 BIUB MAY 06 14 P1737 3 3BO5

	Estimated Percent:
Kibble	96.1
Dark Bits	3.9

Sample: 009-2014 (Kibble)	Estimated Percent:
Chicken	35
Chicken Meal	24
Total Starch	16
Total Fat	12
Pea Fiber	6
Flax (Linseed)	2
Vegetable Pomace	2
Dehydrated Alfalfa Meal	1
Total Chlorides as NaCl	0.60
pH = 5.5	

Sample: 009-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	54
Total Fat	16
Dehydrated Alfalfa Meal	10
Pea Fiber	7
Total Starch	7
Poultry By-Product Meal	2
Rice Hulls	1
Vegetable Pomace	1
Total Chlorides as NaCl	0.6
pH = 5.7	

Sample: Blue Buffalo Basics – Adult Turkey & Potato (Dog); 59610 00752 BIUB MAR 05 15 P1041 3 3MO5

	Estimated Percent:
Kibble	96.1
Dark Bits	3.9

Sample: 010-2014 (Kibble)	Estimated Percent:
Chicken	50
Chicken Meal	22
Total Starch	12
Total Fat	12
Dehydrated Alfalfa Meal	2
Vegetable Pomace	0.2
Rice Hulls	0.2
Total Chlorides as NaCl	0.60
Dicalcium Phosphate	Trace (<0.1%)
KCl	Trace (<0.1%)

pH = 5.6

Sample: 010-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	56
Total Fat	16
Pea Fiber	12
Total Starch	8
Dehydrated Alfalfa Meal	4
Ground Yellow Corn	2
Rice Hulls	0.2
Total Chlorides as NaCl	0.56

pH = 5.5

11.

Sample: Purina ONE beyOnd Salmon & Whole Brown Rice Recipe; 17800 12702 328160010110L04

	Estimated Percent:
Dark Kibble	58.7
Light Kibble	41.3

Sample: 011-2014 (Dark Kibble)	Estimated Percent:
Chicken Meal	24
Fish	22
Total Fat	18
Ground Rice	15
Soybean Meal	8
Fish Meal	4
Ground Barley	4
Ground Oats	2
Soy Protein Isolate	0.5
Beet Pulp	0.5
Total Chlorides as NaCl	0.60
pH = 5.8	

Sample: 011-2014 (Light Kibble)	Estimated Percent:
Chicken Meal	25
Fish	23
Total Fat	16
Ground Rice	16
Soybean Meal	7
Fish Meal	5
Ground Barley	3
Ground Oats	2
Soy Protein Isolate	0.5
Beet Pulp	Trace (<0.1%)
Total Chlorides as NaCl	0.60
pH = 5.7	

12.

Sample: Purina ONE beyOnd White Meat Chicken & Whole Oat Meal Recipe; 17800 14418 331560012305L05

	Estimated Percent:
Dark Kibble	58.7
Light Kibble	41.3

Sample: 012-2014 (Dark Kibble)	Estimated Percent:
Chicken	27
Chicken Meal	22
Total Fat	17
Ground Rice	13
Soybean Meal	11
Ground Barley	6
Ground Oats	2
Soy Protein Isolate	0.5
Beet Pulp	0.5
Total Chlorides as NaCl	0.6
pH = 5.7	

Sample: 012-2014 (Light Kibble)	Estimated Percent:
Chicken	26
Chicken Meal	20
Total Fat	17
Ground Rice	12
Soybean Meal	12
Ground Barley	8
Ground Oats	2
Soy Protein Isolate	0.2
Beet Pulp	0.3
Vegetable Pomace	0.1
Total Chlorides as NaCl	0.5
Calcium Carbonate	Trace (<0.1%)
pH = 5.8	

Sample: Purina Pro Plan SELECT Adult Grain Free Formula (Dog); 38100 15196 307110820548LI5

Kibble (013-2014)	Estimated Percent:
Canola Meal	28
Chicken	26
Total Fat	18
Total Starch	18
Fish Meal	4
Pea Fiber	3
NaCl	0.6
Beet Pulp	0.5

pH = 5.7

Sample: Purina ONE beyOnd White Meat Chicken & Whole Barley Recipe (Dog); 17800 14936 331810850201L04

Kibble (014-2014)	Estimated Percent:
Chicken	36
Ground Rice	22
Total Fat	18
Canola Meal	12
Ground Barley	10
NaCl	0.58
Calcium Carbonate	0.1
Vegetable Pomace	Trace (<0.1%)
KCl	Trace (<0.1%)

pH = 5.6

14.

Sample: Blue Buffalo Freedom—Grain Fee Chicken for Indoor Cats; BIUB SEP 05 14 J11 1635

	Estimated Percent:
Kibble	94.9
Dark Bits	5.1

Sample: 015-2014 (Kibble)	Estimated Percent:
Chicken	33
Chicken Meal	28
Total Fat	13
Total Starch	15
Pea Fiber	5
Flax (Linseed)	2
Dehydrated Alfalfa Meal	1.5
Vegetable Pomace	0.5
Total Chlorides as NaCl	0.6
pH = 5.8	

Sample: 015-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	52
Total Fat	16
Total Starch	10
Dehydrated Alfalfa Meal	8
Pea Fiber	7
Rice Hulls	2
Vegetable Pomace	2
Total Chlorides as NaCl	0.71
Poultry By-Product Meal	1
pH = 5.7	

15.

Sample: Blue Buffalo Longevity—Longevity for Adult Cats; BIUB NOV 29 14 L133 01:12

	Estimated Percent:
Kibble	90.0
Dark Bits	10.0

Sample: 016-2014 (Kibble)	Estimated Percent:
Fish Meal	20
Fish	20
Ground Rice	18
Total Fat	16
Ground Oats	12
Ground Barley	12
Total Chlorides as NaCl	0.6
pH = 6.1	

Sample: 016-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	54
Total Fat	15
Dehydrated Alfalfa Meal	9
Starch	8
Pea Fiber	4
Vegetable Pomace	4
Rice Hulls	2
Ground Yellow Corn	1
Wheat Middlings	1
Total Chlorides as NaCl	0.5
pH = 6.3	

16.

Sample: Blue Buffalo Life Protection—Adult Chicken & Brown Rice (Dog); BIUB JAN 14 15 T1C 16:02

	Estimated Percent:
Kibble	91.0
Dark Bits	9.0

Sample: 017-2014 (Kibble)	Estimated Percent:
Chicken	22
Chicken Meal	20
Total Fat	14
Ground Rice	13
Ground Barley	12
Total Starch	8
Vegetable Pomace	8
Dehydrated Alfalfa Meal	1
Total Chlorides as NaCl	0.51
pH = 5.0	

Sample: 017-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	52
Total Fat	16
Total Starch	10
Dehydrated Alfalfa Meal	8
Pea Fiber	6
Vegetable Pomace	3
Ground Yellow Corn	2
Rice Hulls	2
Total Chlorides as NaCl	0.6
pH = 5.0	

Sample: Purina ONE beyOnd Salmon & Whole Brown Rice Recipe; 40071083 1313L05 BIUB JUL 2015

	Estimated Percent:
Dark Kibble	54.2
Light Kibble	45.8

Sample: 018-2014 (Dark Kibble)	Estimated Percent:
Chicken Meal	26
Fish	21
Total Fat	18
Ground Rice	14
Soybean Meal	7
Fish Meal	5
Ground Barley	3
Ground Oats	3
Soy Protein Isolate	0.5
Beet Pulp	0.5
Total Chlorides as NaCl	0.58
pH = 5.7	

Sample: 018-2014 (Light Kibble)	Estimated Percent:
Chicken Meal	27
Fish	22
Total Fat	16
Ground Rice	15
Soybean Meal	8
Fish Meal	4
Ground Barley	3
Ground Oats	3
Soy Protein Isolate	0.2
Beet Pulp	0.1
Total Chlorides as NaCl	0.62
pH = 5.8	

Sample: Blue Buffalo Basics – Adult Turkey & Potato (Cat); BIUB SEP 08 14 232 1933

	Estimated Percent:
Kibble	97.7
Dark Bits	2.3

Sample: 019-2014 (Kibble)	Estimated Percent:
Chicken	35
Chicken Meal	20
Total Fat	16
Total Starch	15
Pea Fiber	7
Flax (Linseed)	2
Dehydrated Alfalfa Meal	2
Vegetable Pomace	1
Total Chlorides as NaCl	0.50
pH = 5.5	

Sample: 019-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	55
Total Fat	15
Dehydrated Alfalfa Meal	11
Pea Fiber	6
Total Starch	6
Poultry By-Product Meal	2
Rice Hulls	2
Vegetable Pomace	0.5
Total Chlorides as NaCl	0.6
pH = 5.7	

Sample: Blue Buffalo Wilderness—Adult Chicken Recipe (Cat); BIUB MAR 02 15 B31 1446

	Estimated Percent:
Kibble	96.1
Dark Bits	3.9

Sample: 020-2014 (Kibble)	Estimated Percent:
Chicken Meal	32
Chicken	31
Total Fat	18
Fish Meal	9
Total Starch	8
Rice Hulls	1
Dehydrated Alfalfa Meal	0.7
Total Chlorides as NaCl	0.69
Blood Meal	0.1

pH = 5.7

Sample: 020-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	58
Total Fat	14
Starch	8
Poultry By-Product Meal	5
Dehydrated Alfalfa Meal	7
Pea Fiber	4
Rice Hulls	1.5
Ground Yellow Corn	1
Total Chlorides as NaCl	0.4
Calcium Carbonate	0.1

pH = 5.5

20.

Sample: Purina ONE beyOnd White Meat Chicken & Whole Barley Recipe (Dog); BIUB JAN 2015 31971083 0939L09

Kibble (021-2014):	Estimated Percent:
Chicken	35
Ground Rice	24
Total Fat	18
Canola Meal	11
Ground Barley	10
NaCl	0.61
Calcium Carbonate	0.1
Vegetable Pomace	Trace (<0.1%)
KCl	Trace (<0.1%)

pH = 5.8

Sample: Blue Buffalo Basics – Adult Turkey & Potato (Dog); BIUB APR 08 15 P2005 3 4RO8

	Estimated Percent:
Kibble	96.9
Dark Bits	3.1

Sample: 022-2014 (Kibble)	Estimated Percent:
Chicken	48
Chicken Meal	22
Total Starch	13
Total Fat	12
Dehydrated Alfalfa Meal	3
Vegetable Pomace	0.2
Total Chlorides as NaCl	0.70
Dicalcium Phosphate	Trace (<0.1%)
KCl	Trace (<0.1%)

pH = 5.4

Sample: 022-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	55
Total Fat	16
Pea Fiber	14
Total Starch	9
Dehydrated Alfalfa Meal	3
Ground Yellow Corn	1.5
Rice Hulls	0.3
Total Chlorides as NaCl	0.61

pH = 5.7

22.

Sample: Blue Buffalo Freedom—Adult Grain Fee Chicken (Dog); BIUB FEB 04 15 P0117 3 3L06

	Estimated Percent:
Kibble	95.8
Dark Bits	4.2

Sample: 023-2014 (Kibble)	Estimated Percent:
Chicken Meal	32
Chicken	25
Total Fat	15
Total Starch	8
Vegetable Pomace	8
Peas	6
Dehydrated Alfalfa Meal	2
Flax (Linseed)	2
Total Chlorides as NaCl	0.7
pH = 5.2	

Sample: 023-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	55
Total Fat	16
Total Starch	10
Dehydrated Alfalfa Meal	9
Pea Fiber	3
Poultry By-Product Meal	2
Vegetable Pomace	2
Ground Yellow Corn	1
Total Chlorides as NaCl	0.61
pH = 5.0	

Sample: Blue Buffalo Longevity—Longevity for Adult Dogs; BIUB NOV 26 14 L123 01:52

	Estimated Percent:
Kibble	84.0
Dark Bits	16.0

Sample: 024-2014 (Kibble)	Estimated Percent:
Fish	25
Ground Rice	20
Ground Barley	18
Fish Meal	15
Total Fat	12
Total Starch	8
Total Chlorides as NaCl	0.4
Carrots	Trace (<0.1%)
pH = 6.0	

Sample: 024-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	67
Total Fat	11
Starch	8
Dehydrated Alfalfa Meal	6
Pea Fiber	4
Poultry By-Product Meal	1
Rice Hulls	0.5
Vegetable Pomace	0.2
Total Chlorides as NaCl	0.4
Ground Yellow Corn	0.1
Calcium Carbonate	Trace (<0.1%)
pH = 6.0	

24.

Sample: Purina ONE beyOnd White Meat Chicken & Whole Oat Meal Recipe; BIUB JUL 20 15 3347 1083 0419 L05

	Estimated Percent:
Dark Kibble	51.1
Light Kibble	48.9

Sample: 025-2014 (Dark Kibble)	Estimated Percent:
Chicken	28
Chicken Meal	18
Total Fat	17
Ground Rice	15
Soybean Meal	12
Ground Barley	7
Beet Pulp	0.2
Vegetable Pomace	0.2
Soy Protein Isolate	0.1
Calcium Carbonate	0.1
Total Chlorides as NaCl	0.6
pH = 5.7	

Sample: 025-2014 (Light Kibble)	Estimated Percent:
Chicken	28
Chicken Meal	20
Total Fat	16
Ground Rice	12
Soybean Meal	11
Ground Barley	9
Ground Oats	1
Soy Protein Isolate	0.3
Beet Pulp	0.3
Vegetable Pomace	0.2
Total Chlorides as NaCl	0.5
Calcium Carbonate	Trace (<0.1%)
pH = 5.2	

25.

Sample: Blue Buffalo; Wilderness—Adult Chicken Recipe (Dog); BIUB FEB 25 15 L123 04:25

	Estimated Percent:
Kibble	92.0
Dark Bits	8 .0

Sample: 026-2014 (Kibble)	Estimated Percent:
Chicken Meal	35
Chicken	28
Total Fat	14
Total Starch	12
Vegetable Pomace	7
Flax (Linseed)	1.5
Dehydrated Alfalfa Mal	0.3
Total Chlorides as NaCl	0.54
pH = 6.0	

Sample: 026-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	50
Total Fat	15
Poultry By-Product Meal	11
Dehydrated Alfalfa Meal	8
Starch	7
Pea Fiber	3
Vegetable Pomace	2
Rice Hulls	1.5
Total Chlorides as NaCl	0.55
Dirt & Grit	Trace (<0.1%)
pH = 5.8	

26.

Sample: Purina Pro Plan SELECT Adult Grain Free Formula (Dog); BIUB SEP 2014 3071 1082 1052 L15

Kibble (027-2014)	Estimated Percent:
Canola Meal	26
Chicken	25
Total Fat	18
Total Starch	18
Fish Meal	6
Pea Fiber	4
NaCl	0.54
Beet Pulp	0.5
pH = 5.8	

27.

Sample: Life Protection—Indoor Health Chicken & Brown Rice Recipe; BIUB APR 24 15 B42 0041

	Estimated Percent:
Kibble	80.3
Dark Bits	19.7

Sample: 028-2014 (Kibble)	Estimated Percent:
Chicken	30
Poultry By-Product Meal	24
Total Fat	16
Ground Barley	12
Ground Rice	7
Ground Oats	6
Fish Meal	3
Total Chlorides as NaCl	0.6
Carrot	0.1
pH = 6.0	

Sample: 028-2014 (Dark Bits)	Estimated Percent:
Flax (Linseed)	52
Total Fat	16
Starch	12
Dehydrated Alfalfa Meal	8
Pea Fiber	6
Poultry By-Product Meal	2
Vegetable Pomace	1
Rice Hulls	1
Total Chlorides as NaCl	0.62
Ground Yellow Corn	0.1
pH = 6.0	

IV. PAST TESTIMONY AND COMPENSATION

During the previous 4 years, I have not testified as an expert at trial or by deposition in any cases.

My work for the study and testimony in the case is being billed by Windsor Laboratories at the rate of $250.00 per hour. As of June 30, 2014, Windsor Laboratories invoiced a total of $30,277.63 to Purina in fees and expenses on this matter.

Signed ______________________

James V. Makowski, Ph.D.
Microscopist

EXHIBIT 1

CURRICULUM VITAE

Messiah College-Department of Natural Sciences

Grantham, PA 17027

(717) 766-2511

Curriculum Vitae

JAMES V. MAKOWSKI

Home Address: 894 Hawthorn Avenue
Mechanicsburg, PA 17055

Office Address:
Department of Natural Sciences
Messiah College
Grantham, PA 17027

Education:

1976	B.A.	Messiah College (Biology)
1978-79		Trenton State University, NSF Fellowship
1980	M.A.	West Chester State University (Biology)
1991	Ph.D.	University of Delaware (Curriculum & Instruction/ Science Education)

Teaching Experience:

1975-76	Messiah College, Teaching Assistant
1976-81	Central Bucks School District, Senior High School Biology
1981-86	Messiah College, Instructor in Biology
1986-1992	Messiah College, Assistant Professor of Biology
1993-1999	Messiah College, Associate Professor of Biology
2000-	Messiah College, Professor of Biology

While at Messiah College, I have taught the following courses in the Department of Biological Sciences:

BIO 150 Biology I (First semester Biology majors)
BIO 102 Bioscience (Non-majors Biology)
BIO 106 Life Science for Elementary Education (Biological principles for
BIO 114 Heredity & Human Affairs (Ethics based genetics course for non-
BIO 281 Genetics (Introductory genetics for majors)
BIO 313 Developmental Biology (for majors)
BIO 347 Comparative Anatomy (for majors)
BIO 381 Microbiology (for biology majors)
BIO 382 Microbiology for Health Professionals (for nursing & pre-med majors)
NSC 496 Science Seminar (Capstone course for senior majors)
IDS 101 First Year Seminar: Science & the Media
IDS 101 First Year Seminar: Science in Science Fiction
IDS 101 First Year Seminar: Science Fiction & Society
IDST 300 Genetics & Society
BIOL189 Genetics for Health Professionals
BIOL160 Introduction to Cellular & Molecular Biology
BIOL 260 Genetics & Development
BIOL 317 Bioethics
BIOL/CHEM 495 Capstone

I also am responsible for teaching BIO 407 & CHE 407 Secondary Subject Methods: Science for students majoring in biology and chemistry who wish to become secondary teaching certification. In addition, I supervise these students during their professional semester of student teaching.

Additional Professional Experience:

1986-87	Hershey Foods Corporation. Consultant in Food Microbiology,
1988	Polyclinic Medical Center, Faculty Intern to Medical Microbiology Laboratory, 1988
1989	Quaker Oats Corporation, Faculty Intern in Quality Assurance Lab, Shiremanstown, PA, 1989. Responsible for the development of several new procedures for quality assurance laboratory.

1987-present Owner, Windsor Laboratories – a private consulting laboratory for forensic microscopy of animal feed and human food, as well unknown particles, etc.

Awards:

1991 Robert T Stegnar award in Science Education. Recognizes the graduate student who has made the most significant contributions to the advancement of science education. The University of Delaware, May, 1991.

Publications:

Makowski, J. (1979). Nucleosomes: Intracellular chromatin packaging units. Unpublished Research Article, West Chester University, 1979.

Makowski, J. (1980). Autecology of the White-Tailed Deer (Odocoileus virginianus). Unpublished research article, West Chester University, 1980.

Makowski, J. (1983). Concepts of Biology Laboratory Manual, Messiah College, 1983.

Makowski, J. (1988). Problem-solving in genetics: A review. Unpublished

Makowski, J. (1991). High school teachers' conceptions of genetics and their

Makowski, J. (1992). The influence of curriculum content knowledge of genetics instruction. Journal of Research in Science Teaching, Vol 31, 2, February, 1994.

Makowski, J. (1992). A Microbiologist's View of Feed Microbiology. Proceedings of the American Association of Feed Microscopists, Vol. 39, 1.

Makowski, J. (1996). The Use of Polarized Light Microscopy. Proceeding of the American Association of Feed Microscopists, Vol. 43, 2

Makowski, J. (1998). Feed Microscopy: An Undervalued Quality Assurance Technique. *Inform* (9), 11, November, 1999.

Makowski, J. (2000). Electrophoretic Separation of Mammalian Hair Proteins as a Means of Species Identification of Meat & Bone Meal Sources in Animal Feeds. *Inform* (11), April 2000.

Makowski, J. (2006). Microscopy Techniques for the Identification of Animal Protein Products. *Inform.*(17), September 2006

Makowski, J., Ed., (2011). Microscopic Analysis of Agricultural Products, 4th Ed., Champagne, IL, AOCS Press.

Presentations:

"The Effects of Varied Instructional Strategies on Student Problem-Solving Behaviors." Paper presented at the Annual Meeting of the Eastern

"Inhibition of Salmonella sp. in Extruded Feeds." A Paper presented at the Annual Meeting of the American Association of Feed Microscopists,

"Hands-on Science Activities for Elementary School Students." Capital Area Intermediate Unit Regional In-Service day, October, 1991.

"Classroom-Tested Recommendations for Improving High School Genetics Instruction." Capital Area Intermediate Unit In-Service day, October,

"The Influence of Curriculum Content Knowledge on Genetics Instruction." A Paper presented at the Fourth Meeting of the International Consortium

"A Microbiologist's View of Feed Microscopy." A paper presented at the 42nd Annual Meeting of the American Association of Feed Microscopists, St. Louis, MO, June 1992.

Identification of Feed Ingredients Using Stereo- and Compound Microscopy, July, 1995, The University of the West Indies Veterinary College, Kingston, Jamaica

Microscopic Identification of Antibiotics, Vitamins, and Minerals,@ July, 1996, The University of Mexico Veterinary College, Mexico City, Mexico.

"Polarized Light Microscopy and Its Applications to Feed Microscopy." A paper presented at the 46th Annual Meeting of the American Association of Feed Microscopists, Iowa City, IA, June, 1996.

The Role of Feed Microscopy in Feed Management,@ May, 1997, The Annual Meeting of The American Oil Chemists Society, Seattle, WA

Differential Mammalian Hair Morphology as a Means of Identifying Meat & Bone Meal Sources in Animal Feeds,@ May, 1998, The Annual Meeting of the American Oil Chemists Society, Chicago, IL

Identifying Animal Protein Products in Animal Feeds, May, 2001, The Annual Meeting of the American Oil Chemists Society, Minneapolis, MN

Identification of Feed Ingredients Endemic to Caribbean Countries, June, 2002, The University of the West Indies, Kingston Jamaica

Identification of Feed Ingredients Endemic to Caribbean Countries, June, 2002, The University of the West Indies, Port of Spain, Trinidad.

Feed Microscopy: Basic and Advanced Techniques, June 2003, Purdue University Department of Veterinary Science, W. Lafayette, IN

Methods for Identification of Mammalian Proteins using Stereo and Compound Microscopy, May 2005, American Oil Chemists Annual Meeting, St. Louis, MO

Transmissable Spongiform Encephalopathies (TSEs) in North American Elk, May 2006, American Oil Chemists Annual Meeting, Chicago, IL

Chronic Wasting Disease and Potential Transmission to Humans, May, 2007, American Oil Chemists Annual Meeting, Quebec City, Quebec

Current Policies Regarding the Ruminant Feeding Ban in Response to BSE, May, 2007, American Oil Chemists Annual Meeting, Quebec City, Quebec

Chronic Wasting Disease and Potential transmission to Humans, May 2009, American Oil Chemists Annual Meeting, Orlando.

Microscopy as a Means of Identification of Banned Animal Proteins in Agricultural Products. June 2011, U.S. Food and Drug Administration, Bethesda, MD.

Membership in Professional Societies:

American Genetic Association
American Association of Agricultural Microscopists
American Scientific Affiliation
American Oil Chemists Society
American Society of Microbiologists
Central Pennsylvania Microbiology Association
Eastern Educational Research Association
National Association of Researchers in Science Teaching
National Association of College Science Teachers

Offices Held:

Vice President, American Association of Agricultural Microscopists, 1995-96
President, American Association of Agricultural Microscopists, 1996-98
Division Council Representative, American Oil Chemists Association, 1996-98
Chair, Training Committee, AOCS Microscopy Division, 1996-present.
Member at Large, Agricultural Microscopy Division, American Oil Chemists Society, 2002-present
Chair, Agricultural Microscopy Check Sample Program, American Oil Chemists Society 2008-2012

Committees:

1982-85	Faculty Growth and Development Team
1983-84	Faculty Growth and Development Team Secretary
1983-	Teacher Education Committee
1992-98	Committee on Assessment of Student Outcomes
1992-94	General Education Committee
1995-96	Committee on Review of Summer Academic Offerings
1998-2000	Ranked Faculty Affairs Committee

2001-2004 Senator, School of Health & Natural Sciences
2005-2008 Senator, School of Health & Natural Sciences
2006-2007 Natural Sciences Laboratory Sciences Curriculum Committee
2008-2009 Term Tenure & Promotion Committee
2011-2012 Assessment of 3rd and 4th Year Programs in Biological Sciences

Miscellaneous:

Taught the Microbiology component of the Basic Technical Training Course, Pennsylvania Department of Environmental Resources (DER), October, 1990.

Attended Chautauqua Short Course in Recombinant DNA Methodologies, California State University, San Francisco, CA, June, 1991.

Taught an Advanced Microscopy Techniques Short Course for the American Association of Feed Microscopists, Dayton, OH, June, 1994

Taught an Advanced Microscopy Techniques Short Course for the American Association of Feed Microscopists, San Antonio, TX, June, 1995

Taught a combined Basic and Advanced Short Course in Microscopy Techniques, the University of the West Indies, July, 1995.

Taught an Advanced Microscopy Techniques Short Course for the American Association of Feed Microscopists, Iowa City, IA, June, 1996

Taught an Advanced course in chemical spot testing for antibiotics, vitamins, and minerals, the University of Mexico, Mexico City, Mexico, June, 1996

Served on a validation-standards setting panel for new teacher licensure by Educational Testing Services for the Pennsylvania Department of Education, in Camp Hill, PA, April 1-2, 1997.

Taught an Advance course in microscope techniques, with particular attention to the use of polarized light microscopy. The American Oil Chemists Association, Seattle, WA, May, 1997.

Taught an advanced course in ingredient identification for the American Association of Feed Microscopists, Nashville, TN, June, 1997.

Hair Morphology as a Means of Identification of Mammalian Species in Ruminant Feeds. May, 1998, The Annual Meeting of the American Oil Chemists Society, Chicago, IL

A Short Course on the Microscopy of Marine, Poultry and Meat Products. May, 1999, The Annual Meeting of the American Oil Chemists Society, Orlando, FL

Taught a Short Course on Feed Microscopy, with Emphasis on Animal Protein Products. November, 2001, Northern Crops Institute, North Dakota State University, Fargo, ND.

Primary Instructor for the Advanced Agricultural Microscopy Short Course, May, 2007, Quebec City, Quebec

Taught Intensive Short course in Forensic Microscopy, University of the West Indies, Kingston, Jamaica and Port of Spain, Trinidad, 2008

Taught Intensive Course on Agricultural Microscopy with Emphasis on Animal Protein Products. June, 2011, Cincinnati, OH.

Alizarin Red as a means of Identifying Muscle Tissue in Ruminant Feeds. May, 2014, The Annual Meeting of the American Oil Chemists Society, San Antonio, TX.

Married, three children

EXHIBIT 2

PHOTOGRAPHIC APPENDIX

All of the images below were taken through a Nikon SMZ 745T Stereo Microscope and captured with a Zeiss Axiocam ERc5s camera at 20X magnification, and were taken of the actual Blue Buffalo product samples analyzed in the research described in my report.

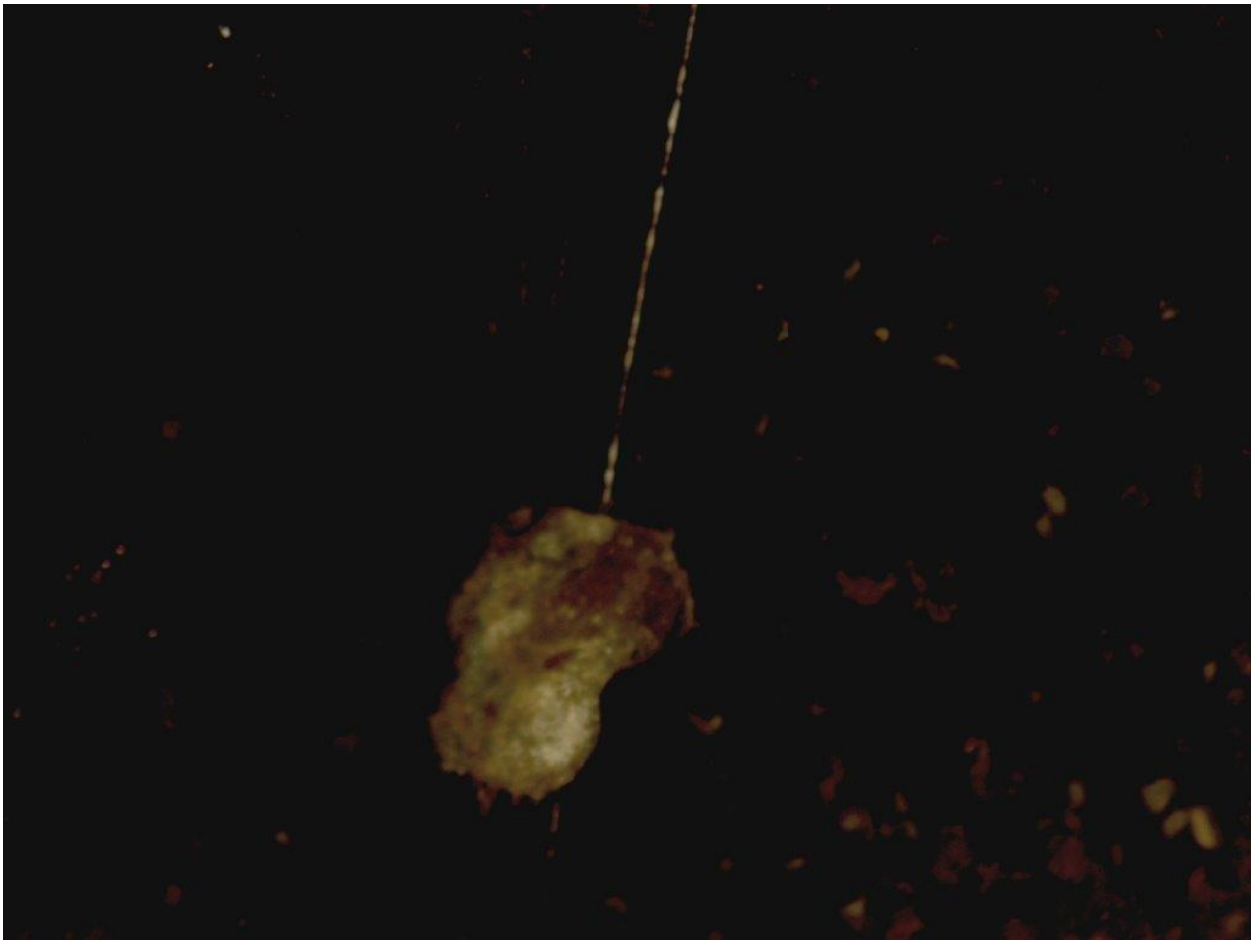

Figure 1. Chicken or poultry leg scale, from Blue Buffalo Life Protection—Indoor Health Chicken & Brown Rice Recipe (kibble), sample code 005-2014.

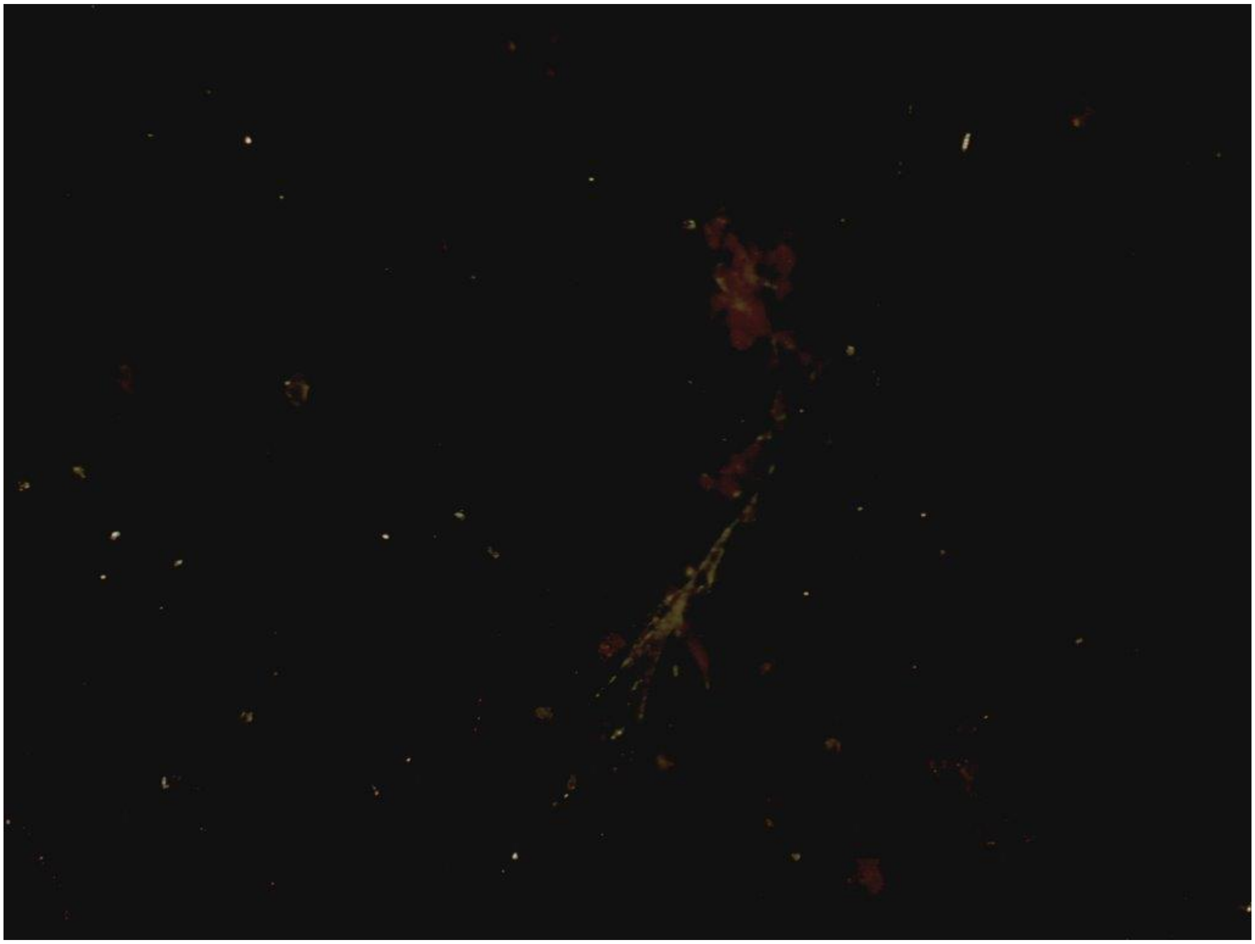

Figure 2. Raw chicken or poultry feather, from Blue Buffalo Life Protection—Indoor Health Chicken & Brown Rice Recipe (kibble), sample code 005-2014.

Figure 3. Chicken or poultry egg shell fragment, from Blue Buffalo Life Protection—Indoor Health Chicken & Brown Rice Recipe (kibble), sample code 005-2014.

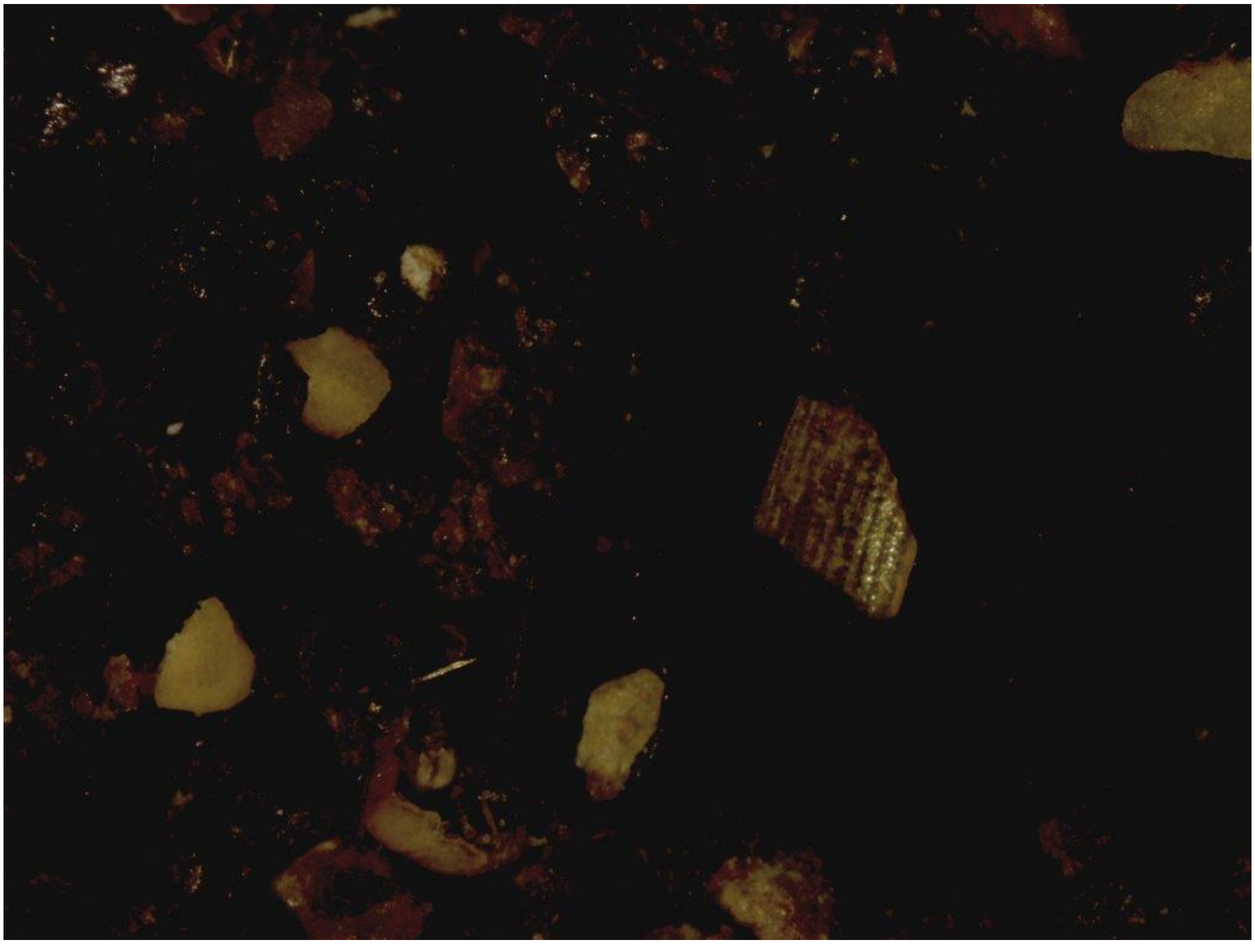

Figure 4. Rice hull particle, from Blue Buffalo Freedom—Adult Grain Free Chicken (Dog) (dark bits), sample code 007-2014.